B. Sc Biotechnology Course Outcomes	
Course	**Outcomes**
Cell biology	This course presents the types and structural details of the basic unit by which all the living things are made of (the cell). Goals: To make the student to understood the concept of cell and their activities. This course presents the types and structural details of the basic unit by which all the living things are made of (the cell). Goals: To make the student to understood the concept of cell and their activities and molecular signaling.
Bioinstrumentation	Enable the student to get sufficient knowledge in principles and applications of bio instruments.
Microbiology	This course presents the study of Micro organisms. Goals: To make the student to understood Micro organisms and their participation in day to day activities. Objectives: On successful completion of the subject the student should have understood the Role of microorganisms in the diversity
Biochemistry	This course presents the chemical reactions or metabolic functions in the living system and their regulations. Goals: To make the student to understood the concept of biochemical regulations Objectives: On successful completion of the subject the student should have understood: Basic biomolecules, viz protein fats, enzymes and their relevance to biological molecular stabilization.

Genetics	This course presents the way characters get transferred through generations and methods to analyze and modify them Goals: To make the student to understood the concept of genes and their behaviour Objectives: On successful completion of the subject the student should have understood: Basic genetics and their role.
Molecular Biology	This course presents the genetics at molecular level Goals: On successful completion of the subject the student should have understood the molecular aspects of Molecular biology
Plant & Animal Tissue culture	This course presents the application of Plants in Biotechnology Goals: To make the student to understood usage of Plant and Animal products and exploitation of them in Biotechnology. Objectives: On successful completion of the subject, the student should have understood: Crop development, Callus culture, Biotechnological applications of plants, Animal tissue culture, Animal products, production & improvement of them
Immunology	This course presents the basic defense mechanism of animals Goals: To make the student to understood the concept immunology Objectives: On successful completion of the subject the student should have understood: Immunity, Antigen, Antibody, Cells of immune system and their function and regulations
Environmental Biotechnology	his course presents the Study and the Management of the Environment Goals: To make the student to understood Ecology and Conservation of the Environment Objectives: On successful completion of the subject the student should have understood Ecosystem, energy flow and Uses and values of Biodiversity.
Recombinant DNA Technology	his course presents the mechanism of gene manipulation Goals: To make the student to understood the concept of gene manipulation and gene transfer technologies Objectives: On successful completion of the subject, the student should have understood: Manipulation of genes, Transfer techniques, Expression systems and methods of selection
Microbial Biotechnology	This course presents the utility of Microbes Goals: To make the student to understood the applications of Microbes Objectives: On successful completion of the subject the student should have understood: Fermentation, Microbial products, Vaccine and antibiotics.

Microbial biotechnology	This course presents about waste water environment. Domestic and industrial waste water flow rate and characteristics. Design of waste water network, waste water treatment process. Waste water pretreatment – screenings, grit channels, filtration and equalization, primary treatment-chemically enhanced primary sedimentation, sludge quantity from primary settlings.
Biodiversity and Systematics	This course presents the principles Components of Biodiversity (Ecosystem, Genetic and Species diversity) - Assigning values to biodiversity - Species concepts - Animal diversity: (Distribution, inventory, species richness) - Biodiversity Hotspots (Western Ghats, Indo-Burma region).

M. Sc Biotechnology Course Outcomes	
Course	**Outcomes**
Molecular Biology and Genetics	This course Drosophila Presents about Section culture and maintenance. 14. Identification of Mutants - Physical and Chemical Methods. 15. Experiments to determine Mendel's law. 16. Monohybrid and dihybrid cross using plants. 17. Sex chromatin (buccal smear). Skill Based Subje
Biochemistry	This course presents the chemical reactions or metabolic functions in the living system and their regulations. Goals: To make the student to understood the concept of biochemical regulations Objectives: On successful completion of the subject the student should have understood: Basic Structure and metabolism of Biomolecules

Immunology & Immunotechnology	This course presents the basic defense mechanism of animals Goals: To make the student to understood the concept immunology Objectives: On successful completion of the subject the student should have understood: Immunity, Antigen, Antibody, Cells of immune system and their function and regulations
Genetic Engineering	This course presents the genetics at molecular level Goals: On successful completion of the subject the student should have understood the molecular aspects of genetics
Plant Biotechnology	This course presents the application of Plants in Biotechnology Goals: To make the student to understood usage of Plant products and exploitation of them in Biotechnology. Objectives: On successful completion of the subject, the student should have understood: Crop development, Callus culture, Biotechnological applications of plants,
Animal Biotechnology	This course presents the application of animal Biotechnology Goals: To make the student to understood usage of Animal products and exploitation of them in Biotechnology. Objectives: On successful completion of the subject, culture, , Animal tissue culture, Animal products, production & improvement of them.
Bioprocess Technology	This paper presents the basics of fermentation technology, media components as applied to lab scale, pilot scale and industrial scale upstream and down stream processing. Goals: This paper is introduced to acquire requisite skills for the design and development of bioreactors, production optimization, and preparation of sterile base materials for downstream processing. Objectives: On successful completion of the course the students should have understood the basics of fermentation technology and learnt the concept of screening, optimization and maintenance of cultures.
Genomics & Proteomics	This paper presents the basics of: mapping, Genome sequencing, Genome sequence assembly: Base calling and assembly programs, Genome annotation: Gene ontology, Automated genome annotation, Annotation of hypothetical proteins and Genome economy. Comparative genomics: Whole genome alignment, Finding a minimal genome, Lateral gene transfer, Within-genome approach and Gene order and Gene.
Occupational health and industrial safety	Subject Description : This course deals with the study of industrial safety, various safety measures and its applications. It also gives emphasis on prevention and control methods. Goals Students get on idea about the advantages and disadvantages of occupational & Industrial safety applications, principles & functions in safety management. Objectives : To impart knowledge on various occupational health hazards and also safety measures to be taken in the work place.

Biochemical and biophysical methods	This course presents the principles and applications of Biotechnology explaining the biomolecules and applications of biophysical methods. Goals : To enable the students to learn the immuno techniques and radio labeling techniques. Objectives: On successful completion of the course the students will be aware of 1. Microscopic techniques 2. Electro physiological methods. 3. Biomolecules structure determination using x-ray diffraction

PROGRAM OUTCOMES,PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

The College has clearly stated learning outcomes of the Programs and Courses. The following mechanism is followed by the institution to communicate the learning outcomes to the teachers and students.

- Hard Copy of syllabi and Learning Outcomes are available in the departments for ready reference to the teachers and students.
- Soft Copy of Curriculum and Learning Outcomes of Programs and Courses are also uploaded to the Institution website for reference.
- The importance of the learning outcomes has been communicated to the teachers in every IQAC Meeting and College Committee Meeting.
- The students are also made aware of the same through Tutorial Meetings.

Department of Biotechnology	
Programme Outcome	The field Biotechnology teaches about biological sciences that manipulate living organisms and biological systems to produce products that advance healthcare, medicine, agriculture, food, pharmaceuticals and environment control.
Programme Specific Outcome	The various subjects in biotechnology syllabus emphasizing distribution, morphology and physiology of microorganisms in addition to skills in aseptic procedures, isolation and identification. The course also includes sophomore level material covering immunology, virology, Molecular biology and DNA technology. Three four hours lecture and four hours lab per week.